



BILLING CODE 6450-01-P

DEPARTMENT OF ENERGY

Proposed Subsequent Arrangement

AGENCY: Office of Nonproliferation and International Security, Department of Energy.

ACTION: Proposed Subsequent Arrangement.

SUMMARY: The Department is providing notice of a proposed agreement between the Government of the United States of America and the Government of the People's Republic of China that is being processed as a subsequent arrangement.

DATES: This subsequent arrangement will take effect no sooner than **[INSERT DATE FIFTEEN DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

FOR FURTHER INFORMATION CONTACT: Ms. Katie Strangis, Office of Nonproliferation and International Security, National Nuclear Security Administration, Department of Energy. Telephone: 202-586-8623 or e-mail: Katie.Strangis@nnsa.doe.gov.

SUPPLEMENTARY INFORMATION: The agreement that is being processed as a subsequent arrangement is a proposed Implementing Arrangement Between the Government of the United States of America and the Government of the People's Republic of China Under the Agreement for Cooperation Between the Government of the United States of America and the Government of the People's Republic of China Concerning Peaceful Uses of Nuclear Energy (the Implementing Arrangement). The text of the Implementing Arrangement is appended at the end of this notice. The Implementing Arrangement will permit the exchange and joint development of Traveling Wave Reactor (TWR) design information and related

technology between the United States and the People's Republic of China (China), in accordance with section 57.b(1) of the Atomic Energy Act of 1954, as amended (AEA). Section 57 (b) states that persons seeking to export nuclear technology or assistance from the United States, the Secretary of Energy must find that the transfer is not inimical to the interests of the United States. Authorized U.S. persons pursuant to this Implementing Arrangement will fulfill this requirement by seeking the relevant license, codified in 10 CFR Part 810, from the Department of Energy.

At the request of U.S. industry and the Chinese government, the Department of Energy/National Nuclear Security Administration (DOE/NNSA) and Department of State (DOS) negotiated an agreement with agencies of the Government of the People's Republic of China (China) that would facilitate the joint development of TWR technology between a U.S. commercial entity and a Chinese governmental entity engaged in similar technology development. DOE/NNSA and DOS negotiated the agreement as an implementing arrangement under the Agreement for Cooperation Between the Government of the United States of America and the Government of the People's Republic of China Concerning Peaceful Uses of Nuclear Energy of [July 23, 1985] (123 Agreement) to cover the joint TWR work and permit the transfer of technology from the United States to China. The agencies of the Chinese government involved in the negotiations were the National Energy Administration (NEA), the China Atomic Energy Authority (CAEA), and the Ministry of Foreign Affairs (MFA). The Implementing Arrangement establishes the

scope of cooperation and allows both governments to designate individuals and entities, including in the commercial sector, as “Authorized Persons” who are permitted to exchange and develop information and technology, subject to the conditions and restrictions set out in the Implementing Arrangement.

As provided in Section 131a. of the Atomic Energy Act of 1954, as amended, I have determined that this subsequent arrangement will not be inimical to the common defense and security of the United States. In reaching this determination, all relevant factors were considered.

Issued in Washington, DC on December 9, 2013.

Richard Goorevich,
Senior Policy Advisor, Office of Nonproliferation and International Security,
National Nuclear Security Administration.

IMPLEMENTING ARRANGEMENT
BETWEEN
THE GOVERNMENT OF THE UNITED STATES OF AMERICA
AND
THE GOVERNMENT OF THE PEOPLE’S REPUBLIC OF CHINA
UNDER
THE AGREEMENT FOR COOPERATION BETWEEN THE
GOVERNMENT OF THE UNITED STATES OF AMERICA AND
THE GOVERNMENT OF THE PEOPLE’S REPUBLIC OF CHINA
CONCERNING PEACEFUL USES OF NUCLEAR ENERGY

The Government of the United States of America and the Government of the People’s Republic of China (hereinafter referred to as the “Parties”),

RECOGNIZING that the United States of America and the People’s Republic of China are parties to the Treaty on the Non-Proliferation of Nuclear Weapons, done at Washington, London and Moscow July 1, 1968;

NOTING the Agreement for Cooperation Between the Government of the United States of America and the Government of the People’s Republic of

China Concerning Peaceful Uses of Nuclear Energy signed on July 23, 1985 (hereinafter referred to as the “Agreement for Cooperation”);

NOTING the Exchange of Diplomatic Notes between the Parties on September 12, 2003, regarding their understanding concerning assurances for transfers of nuclear technology, and the Statement of Intent between the Department of Energy of the United States of America and the China Atomic Energy Authority on exchange of assurances for transfers of nuclear technology of September 16, 2003;

ACKNOWLEDGING the need to develop an appropriate mix of environmentally safe and secure sources of energy, including nuclear, to meet the needs of their respective countries’ populations;

NOTING the shared commitment of the Parties to preventing nuclear proliferation;

EMPHASIZING the critical role of international safeguards in promoting international confidence in the peaceful uses of nuclear energy;

ACKNOWLEDGING their shared wish to facilitate research and development on relevant topics related to the peaceful uses of nuclear

energy;

RECOGNIZING that research and development of traveling wave reactor (“TWR”) technology is ongoing in both the United States and the People’s Republic of China and that the significant physical and intellectual investment in infrastructure required to support TWR development need not be duplicated by each Party, but rather can be shared and harmonized in an efficient and equitable fashion;

REALIZING that the successful development of traveling wave reactors for the production of power for peaceful purposes would contribute significantly to the peaceful uses of nuclear power worldwide, non-proliferation, and the sustainable development of nuclear power;

WISHING to facilitate cooperation in the development and deployment of TWR technology;

NOTING that Article 3 of the Agreement for Cooperation provides that information and technology concerning the use of nuclear energy for peaceful purposes may be transferred, and Article 2, paragraph 2 of the Agreement for Cooperation provides that transfer of information and technology under the Agreement for Cooperation may be undertaken

directly between the parties to that agreement or through authorized persons, subject to the terms of the Agreement for Cooperation and to such additional terms and conditions as may be agreed by the parties thereto; and

WISHING to provide for such additional terms and conditions for cooperation by the Parties and their authorized persons in the development and deployment of TWR technology in support of cooperative efforts to develop TWRs,

Have agreed as follows:

ARTICLE I

1. The Parties acknowledge their mutual interest in facilitating cooperation between their countries in the development of TWR technology on the basis of mutual benefit, equality and reciprocity, and shall endeavor to take steps to facilitate such cooperation□without prejudice to the rights and obligations of the Parties under this Implementing Arrangement and the Agreement for Cooperation.

2. Each Party shall endeavor not to take any action for the purpose of interfering with the development and deployment of TWR technology for

peaceful purposes in accordance with the Agreement for Cooperation.

3. The Parties agree that, in fulfilling their obligations under this Implementing Arrangement, their cooperation on the development and deployment of TWR technology shall be in accordance with their respective applicable treaties, national laws and regulations. The Parties recognize, with respect to the observance of this Implementing Arrangement, the principle of international law that provides that a party may not invoke the provisions of its internal law as justification for its failure to perform a treaty.

4. For purposes of this Implementing Arrangement:

“TWR technology” means information or technology (including information incorporated in a nuclear reactor, component or equipment) that has not yet entered into the public domain and that is especially designed, prepared or necessary for the development, testing, manufacture, deployment, operation, or maintenance of traveling wave reactors, and for the manufacture, installation, or disposition of fuel for such reactors, and such other information which may be so designated by written agreement of the Parties.

“Traveling wave reactors” or “TWRs” means reactors that would be

designed to operate indefinitely using natural uranium, depleted uranium, spent light water reactor fuel, or thorium as reload fuel after start-up, and in which waves that breed and then burn would travel relative to the fuel. Under this Implementing Arrangement, standing wave reactors are covered by the definition of “traveling wave reactors”.

ARTICLE II

1. The Executive Agent under this Implementing Arrangement for the Government of the United States of America shall be the United States Department of Energy, and the Executive Agents under this Implementing Arrangement for the Government of the People’s Republic of China shall be the National Energy Administration of China and the China Atomic Energy Authority. In particular, the China Atomic Energy Authority is the leading Executive Agent for the People’s Republic of China for implementing Article VI and Article VII of this Implementing Arrangement. Each Party may change its Executive Agents or add one or more additional Executive Agents by written notice to the other Party.

2. Each Party’s Executive Agents shall have the right, in accordance with the laws and regulations of its country, and following written notification to the other Party’s Executive Agents, to delegate responsibilities for the

implementation of this Implementing Arrangement to other agencies, departments, or units of its respective government.

3. Each Party's Executive Agents shall endeavor to facilitate the participation, as appropriate, and coordination of all appropriate scientific and technical entities in that Party's country, including but not limited to fuel fabrication enterprises, nuclear power plants, and regulatory agencies, that will be involved in the cooperation subject to this Implementing Arrangement.

ARTICLE III

Each Party's Executive Agents shall designate in writing the individuals and/or entities within the jurisdiction of that Party authorized to participate in cooperation under this Implementing Arrangement in the development and deployment of TWR technology and, in connection with such cooperation, to transfer TWR technology to the Executive Agents and Authorized Persons of the other Party. Individuals and entities so designated by an Executive Agent of a Party are hereinafter referred to as "Authorized Persons".

ARTICLE IV

The areas of cooperation on development and deployment of TWR technology under this Implementing Arrangement shall include:

- A) TWR reactor neutronics analysis and experimentation, including but not limited to reactor, plant shielding, nuclear data, software (source program), nuclear database, conceptual design, core and system design and certification in the phases, core and fuel management technology, model and calculation;
- B) TWR reactor and plant safety, including but not limited to reactor system safety standards, accident analysis software, and accident management regulations;
- C) TWR fuels and materials, including but not limited to long-life fuel; clad materials; structural materials; component materials; absorber materials; circuit materials; fuels and materials research and development (R&D); testing programs used to develop the fuels and materials manufacturing processes; experimental data; raw material; formulae; technological processes; and facilities and equipment used to manufacture the fuels and materials;

- D) TWR nuclear steam supply systems and their associated components and equipment, including but not limited to design standard, component, equipment, and system design, thermal hydraulics, mechanics, and chemistry analysis;
- E) TWR engineered safety features and their associated components, including but not limited to design standards, component and system design, and structural design;
- F) TWR reactor building, including but not limited to containment design and structural and architectural analysis;
- G) TWR reactor instrumentation and control, and application of computer science, including but not limited to survey, monitor, control, and protection systems;
- H) TWR reactor quality assurance, non-destructive inspection practices, and in-service inspection technology;
- I) TWR plant design, construction, debug, test run, operation, maintenance, and decommissioning technology;

J) TWR economic methodology and evaluation technology;

K) Treatment, storage, recycle, and disposal technology of TWR reactor and system spent fuel□

L) Treatment, storage, and disposal technology of TWR reactor and system radioactive waste; and

M) Such other areas as the Parties or their Executive Agents agree upon in writing.

ARTICLE V

1. Cooperation under this Implementing Arrangement with respect to the areas listed in Article IV may include, but is not limited to, the following forms:

A) Exchange of views and information;

B) Organization of, and participation in, seminars, workshops, and other meetings;

- C) Exchange of scientists, engineers, and other specialists for agreed periods of time for cooperative training, and participation in experiments, analysis, design, and other research, development and demonstration activities at civilian scientific centers, academic institutions, nuclear reactor facilities, laboratories, engineering offices, and other facilities of the Parties;
- D) Exchange, provision, or loan of samples, materials, instruments, components, and equipment for experiments, testing, and evaluation;
- E) The use by one Party of the civilian facilities owned or operated by the other Party, subject in each case to the execution of an appropriate agreement therefor; and
- F) Such other specific forms of cooperation as may be agreed by the Parties or their Executive Agents in writing.

2. The Parties agree that Authorized Persons from both countries may carry out cooperation under this Implementing Arrangement through such forms as establishing a joint venture.

ARTICLE VI

1. Any TWR technology transferred by one Party (or its Authorized Persons) to the other Party (or its Authorized Persons) under this Implementing Arrangement as well as any TWR technology developed in the course of the cooperation under this Implementing Arrangement or jointly developed by two or more Authorized Persons through such cooperation shall be subject to this Implementing Arrangement. In addition, items derived from any TWR technology subject to this Implementing Arrangement or developed through the cooperation or jointly developed by two or more Authorized Persons through such cooperation under this Implementing Arrangement shall be subject to this Implementing Arrangement.

2. The following requirements shall apply to TWR technology and items subject to this Implementing Arrangement:

A) TWR technology and items subject to this Implementing Arrangement shall not be used for the production of any nuclear weapons or nuclear explosive device, or for research on or development of any such weapon or device, or for any military purpose.

B) TWR technology transferred under this Implementing Arrangement and items derived therefrom shall not be retransferred to unauthorized persons or, unless the Party that originally transferred the TWR technology agrees in advance in writing, from the jurisdiction of the other Party.

C) TWR technology developed in the course of the cooperation under this Implementing Arrangement or jointly developed by two or more Authorized Persons through such cooperation, and items derived therefrom, shall not be retransferred to unauthorized persons or, unless the Parties agree in advance in writing, from the jurisdiction of either Party.

D) Prior to the transfer to a third country of TWR technology or items subject to this Implementing Arrangement, the Parties by mutual agreement in writing will define the conditions in accordance with which such TWR technology or items may be transferred to the jurisdiction of the third country.

E) Each Party shall require recipients of TWR technology under this Implementing Arrangement to take all measures necessary to ensure adequate protection of the transferred TWR technology as well as technology developed in the course of the cooperation under this

Implementing Arrangement or jointly developed by two or more Authorized Persons through such cooperation, and to ensure adequate physical protection of items under that Party's jurisdiction that are subject to this Implementing Arrangement. Such physical protection shall, as appropriate, provide protection at a minimum comparable to the recommendations set forth in the International Atomic Energy Agency Nuclear Security Series No. 13 entitled "Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities" (INFCIRC/225/Revision 5) and such further revisions of that document as agreed to by the Parties.

3. Technology or items determined by the Executive Agents pursuant to paragraph 4 E)(ii) of this Article VI to have been designed, constructed, fabricated, operated, or maintained independently of transferred technical data, technology or other information or items and of the cooperation under this Implementing Arrangement shall not be subject to the requirements of paragraph 2 of this Article VI.

4. The Executive Agents of the Parties shall determine jointly what information and technology may be subject to the terms and conditions of this Implementing Arrangement according to the following procedures:

A) Each Party, through its Executive Agents, shall require all its Authorized Persons to keep, and to provide to that Party's Executive Agents, an annual inventory of all technical data, technology or other information associated with the development, construction, deployment or use of a traveling wave reactor that is transferred to the other Party, one of its Executive Agents or any of its Authorized Persons.

B) Each Party, through its Executive Agents, shall require all its Authorized Persons to keep, and to provide to that Party's Executive Agents, an annual inventory of all technical data, technology or other information or cooperation associated with the development, construction, deployment or use of a traveling wave reactor that is developed in the course of the cooperation under this Implementing Arrangement or jointly developed by two or more Authorized Persons through such cooperation, and items derived therefrom.

C) Each Party, through its Executive Agents, shall require all its Authorized Persons to provide to its Executive Agents, prior to transferring any technical data, technology or other information or items to, or engaging in any cooperation with, the other Party under this Implementing Arrangement, its Executive Agents or any of its Authorized Persons, a list and description of what is to be transferred or jointly developed.

D) The Executive Agents of the Parties shall establish a cooperation plan through consultations by the following process:

- i. Each Party's Executive Agents shall request that Party's Authorized Persons to consult with the Authorized Persons of the other Party to develop a proposed cooperation plan that outlines the scope of technical data, technology or other information or cooperation associated with the development, construction, deployment or use of a traveling wave reactor that is anticipated to be transferred, or communicated between the Parties, their Executive Agents or any of their Authorized Persons over a period to be agreed on by the Executive Agents. Based on the submissions from the Authorized Persons, the Executive Agents shall agree upon an initial cooperation plan at their initial consultation, which shall take place as soon as possible after the entry into force of this Implementing Arrangement but before any transfer of TWR technology by any Authorized Person.
- ii. In subsequent years, the Executive Agents shall review the cooperation plan at annual consultations, or any time agreed by the Executive Agents, based on information obtained from Authorized Persons, regarding transfers and cooperation expected to take place in

the following year, and shall make appropriate revisions or adjustments to the cooperation plan.

iii. Each Party, through its Executive Agents, shall authorize its Authorized Persons to cooperate with Authorized Persons of the other Party upon the adoption of the initial cooperation plan and only in accordance with the cooperation plan, as it may be revised from time to time.

E) The Executive Agents shall exchange and review annually the inventories referred to in subparagraphs A) and B) of this paragraph 4 and reach agreement on a final annual inventory subject to the terms and conditions of this Implementing Arrangement, through consultations by the following procedures:

i. Beginning at the end of the first year of cooperation under this Implementing Arrangement and in each subsequent year, each Party, through its Executive Agents, shall require each of its Authorized Persons to submit a list and description of what that Authorized Person has transferred, received or jointly developed through cooperation under this Implementing Arrangement in the previous year, and to work with the appropriate Authorized Persons of the other Party to seek agreement between all relevant Authorized Persons on such a list.

ii. The Executive Agents of both Parties shall review the lists referred to in subparagraph E)(i) and the annual inventories referred to in subparagraphs A) and B) of this paragraph 4 on an annual basis and seek to agree in writing on a final annual inventory (“Final Annual Inventory”) of what is subject to the terms and conditions of this Implementing Arrangement.

iii. The annual inventories referred to in subparagraphs A) and B) of this paragraph 4 shall be subject to the terms and conditions of this Implementing Arrangement, including but not limited to the provisions on retransfer in Article VII hereof, until completion of the review by the Executive Agents in the annual consultation of that year in accordance with subparagraph E) of this paragraph. Technical data, technology or other information or cooperation or items on the annual inventories referred to in subparagraphs A) and B) of this paragraph 4 that the Executive Agents of both Parties agree are not included within the scope of this Implementing Arrangement shall be removed from the Final Annual Inventory and shall not thereafter be subject to the terms and conditions of this Implementing Arrangement.

ARTICLE VII

1. Prior to any transfer of TWR technology or items subject to this Implementing Arrangement by any Party to a third country, the Party proposing to make such transfer (the transferring Party) shall request in written form the consent of the other Party (the consenting Party) or the Executive Agent for the consenting Party to the transfer of the specified TWR technology or items to the identified third country.

2. If the consenting Party or its Executive Agent provides to the transferring Party its written consent to such transfer to that identified third country, subject to the agreed conditions in accordance with which such TWR technology or items may be transferred to the jurisdiction of that identified third country as provided in Article VI, paragraph 2, subparagraph D) above, the consenting Party shall obtain in advance from the identified third country to which the TWR technology or items are to be transferred the same assurances as those set forth in Article VI, paragraph 2.

3. The transferring Party shall ensure prior to the transfer that the appropriate governmental authority in the identified third country is informed that the TWR technology and items being retransferred are under obligation to the consenting Party.

4. After the consenting Party receives the same assurances as set forth in Article VI, paragraph 2, from the identified third country, that Party will inform the transferring Party that it may proceed with the proposed transfer.

ARTICLE VIII

The Parties recognize that arrangements for allocation of intellectual property rights and benefits of the cooperation by Authorized Persons under this Implementing Arrangement may be made separately between those Authorized Persons.

ARTICLE IX

1. This Implementing Arrangement shall enter into force on the date of the latest written notification between the Parties that they have completed their internal legal procedures necessary for its entry into force, and shall remain in force for five years, unless terminated as provided herein. For so long as the Agreement for Cooperation is in force, this Implementing

Arrangement shall be automatically renewed for further five-year periods unless either Party notifies the other in writing at least six months prior to the expiration of the first five-year period or any succeeding five-year period that it does not wish to renew this Implementing Arrangement at the end of that period. In addition, this Implementing Arrangement shall terminate upon the termination or expiration of the Agreement for Cooperation.

2. This Implementing Arrangement may be amended by the Parties in writing.

3. This Implementing Arrangement may be terminated at any time by both Parties in writing, or by either Party with one year's advance notification in writing. Any termination or expiration shall be without prejudice to the rights which may have accrued under this Implementing Arrangement to either Party up to the date of such termination or expiration. Notwithstanding the termination or expiration of this Implementing Arrangement, the provisions of Articles VI and VII shall continue in effect until the Parties otherwise agree in writing.

4. Joint activities not completed at the termination or expiration of this Implementing Arrangement may, if agreed by the Parties in writing, be

continued until their completion under the terms of this Implementing Arrangement so long as the Agreement for Cooperation remains in force.

5. This Implementing Arrangement is subject to the Agreement for Cooperation, and in case of any conflict between the Agreement for Cooperation and this Implementing Arrangement, the Agreement for Cooperation shall prevail. Any questions of interpretation or implementation relating to this Implementing Arrangement arising during its term shall be resolved by consultations between the Parties' Executive Agents or, if necessary, the Parties.

IN WITNESS WHEREOF, the undersigned, duly authorized thereto by their respective governments, have signed this Implementing Arrangement.

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